HIGH DENSITY SIGNAL CLASSIFIER FOR MEDIA GATEWAYS

ABSTRACT OF THE DISCLOSURE

A signal classifier decomposes a subject signal into subbands. The signal classifier then analyzes the subbands for a presence of energy and uses detection logic to classify
5 the energy as being representative of a frame of a signal using one of the following protocols: DTMF, MF-R1, ANS (V.25), LEC-DIS, V.21, or AA (i.e., telephone, facsimile, or modem). The detection logic is expandable to detect future protocols. The classifier may employ a preclassifier to select a reduced number of notch filters from among plural notch filters at frequencies which sinusoidal signals composing the energy
10 in the subbands of the protocols may be found. A look-up table having pre-determined ranges of data corresponding to the frequencies of the sinusoidal signals may be used to reduce calculation times. By splitting the subject signal into subbands and using efficient filters, the classifier uses an order of magnitude fewer processor instruction cycles than previous classifiers. The classifier is useful in inter-networking devices,
15 such as a media gateway, to facilitate telephony services, such as VoIP.